

DELTA PROTECTION COMMISSION

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September 11, 1998

To: Delta Protection Commission
From: Lori Clamurro, Delta Protection Commission Staff
Re: May 1998 CALFED Category III Ecosystem Restoration Proposals (recommended)

As part of its Ecosystem Restoration Program, CALFED has been requesting proposals for various studies and projects which would benefit species and their habitats. The projects are funded from bond monies approved in Proposition 204 in November 1996. The third and most recent solicitation for proposals occurred in May 1998. This memo briefly describes each of the 15 projects in the Delta recommended for funding by CALFED's Technical Review Panel and Integration Panel (64 total projects are recommended for funding).

\$24,550,000 was budgeted for this most recent round of proposal solicitation; the Technical Review Panel and Integration Panel recommendations projects totaling \$25,564,511. Of this amount, almost \$5,000,000 was recommended for the 16 projects located in the Delta.

Adult Fall-run Chinook Salmon Movement in the Lower San Joaquin River and South Delta (A1000)

Site map on pg. 9

A previous study indicates that South Delta temporary barriers and the head of Old River barrier have the potential to block upstream movement of a significant fraction of the San Joaquin River run; low dissolved oxygen in the Stockton Deep Water Channel or downstream in the mainstem San Joaquin River has also been shown to block the upstream migration of salmon. Department of Fish and Game (DFG) proposes to monitor the upstream movement of fall-run chinook salmon in the lower San Joaquin River and South Delta, and analyze this information to determine whether the installation of three South Delta temporary barriers and the head of Old River barrier or low dissolved oxygen levels are significant impediments to upstream migration.

DFG requested \$348,875. DFG will ask the Department of Water Resources to share some of the capital costs of telemetry equipment and up to 50% of the salaries. Both the Technical Review Panel and the Integration Panel recommend that \$285,000 be allocated, and that South Delta projects should share in the costs.

Cosumnes River Salmonid Barrier Program (B1009)

Site map on pg. 10

During the recent past, the salmon population in the Cosumnes River has been significantly reduced due, in part, to several major barriers that impede upstream migration to

most of the river's salmonid spawning habitat. Assessments suggest that there are four barriers within or below the spawning habitat that have the potential to significantly hinder upstream migration throughout a wide range of flows. The Fishery Foundation of California (FFC) proposes to improve passage by installing fish passage structures at two summer dams in the lower river, one low-flow road crossing, and by upgrading the fish ladders at Granlees Dam to current DFG hydraulic specifications. After completing improvements of the fish passage structures, a monitoring program will be implemented to document the project's benefits.

FFC requested \$188,255, half of the total estimated project cost of \$376,510. It has already contributed \$28,850 toward this project, and additional funds will be sought by the FCC and The Nature Conservancy (TNC) from sources such as Commercial Salmon Stamp, DWR, Four Pumps Fish Mitigation, Striped Bass Stamp, Urban Stream, and others. Both the Technical Review Panel and the Integration Panel recommend that \$188,255 be allocated.

Hastings Tract Fish Screen Phase II: Construction (B1015)

Site map on pg. 11

Hastings Island Land Company proposes to place fish screens on its gravity intake pipes and relocate the pipes from Cache Slough to Lindsay Slough on Hastings Tract. At present, Hastings Island Land Company is preparing a feasibility report on screen alternatives (this project was funded in the previous CALFED RFP solicitation). The completion of the project involves engineering design, biological consultation regulatory permits and consultation, construction, and post-project monitoring and reporting.

Hastings Island Land Company requested \$271,500 from CALFED, which is half of the total estimated cost of \$543,000. Both the Technical Review Panel and Integration Panel recommend that \$271,250 be allocated.

Rhode Island Floodplain Management and Habitat Restoration (C1006)

Site map on pg. 12

Rhode Island is a 67-acre island which has been breached since 1938, located in the Old River channel between Holland Tract and the northern end of Bacon Island; it is owned in fee by DFG. DFG proposes to improve the fish and wildlife carrying capacity of Rhode Island by increasing the width, height, and stability of the island's breached levees. The increased width and height of the levees would result in additional woody shaded riverine aquatic habitat, and additional improvement could result from construction of small wooded islands in the interior of the island. Open water areas could be modified by deepening or shoaling, improving freshwater marsh and open fish habitat. The project would consist of three phases:

1. DFG biologists would survey conditions to determine specific improvement needs;
2. The Project Manager would develop contracts with the appropriate parties for engineering and construction (construction is expected to be completed within one year); and
3. The success of the project would be monitored for five years.

DFG estimates that the entire project will cost \$935,000, and expects that Delta Flood Protection Program (AB 360) funds could reduce or supplement this figure. The Technical Review Panel and Integration Panel recommend that \$25,000 be awarded, for the first phase (the survey to determine needs).

Stone Lakes National Wildlife Refuge Land Acquisitions (C1010)

Site map on pg. 13

US Fish and Wildlife Service (USFWS) is interested in acquiring fee title interest in two properties, totaling 658 acres, located in the Stone Lakes National Wildlife Refuge project boundary. The properties offer outstanding potential for floodplain management and wildlife habitat restoration and enhancement. Each property is adjacent to land that is already owned and managed by the USFWS. They are extremely high priority acquisitions because there is intense pressure to convert land in the Stone Lakes Basin to vineyards, and there is a high likelihood that the properties will be sold to others if USFWS is unable to act quickly.

USFWS requested \$3,436,500 to fully acquire both properties. The Technical Review Panel recommends that \$2,000,000 be awarded to purchase the larger of the two parcels; the Integration supports this recommendation and suggests that \$1,900,000 be awarded.

Fern-Headreach Tidal Perennial Aquatic and Shaded River Aquatic Conservation Project (C1025)

Site map on pg. 14

The Fern-Headreach Island Complex consists of 168 acres along the main channel of the San Joaquin River, just southeast of Columbia Cut. The levee along the east side of the complex is maintained by the US Army Corps of Engineers (Corps); the remaining levee which is comprised largely of shaded riverine aquatic habitat is protected by the property owner. The applicant, Mr. Thomas Luckey, owns Medford Island, and holds the purchase option for the Fern-Headreach Island Complex. Currently, several breaches, created by the past two winters' flooding, allow the 150 acre interior of the island to be subjected to tidal influence. The focus of this project is to exercise Mr. Luckey's purchase option, and subsequently commit the entire 168 acre complex (28 acres of shaded riverine aquatic habitat and 140 acres as shallow water perennial aquatic habitat) to permanent habitat status, and to dedicate a permanent conservation easement across the property to an entity approved by DFG and the USFWS.

Mr. Luckey requested \$425,000 for this project. Both the Technical Review Panel and the Integration Panel are recommending that \$425,000 be awarded, with the condition that the option needs to be exercised by the end of one year.

Cosumnes River Acquisition, Restoration, Planning, and Demonstration (C1032)

Site map on pg. 15

With this project, The Nature Conservancy (TNC), in cooperation with the Bureau of Land Management and the California Wildlife Conservation Board, proposes to acquire fee interests from willing sellers on two properties contiguous to the Cosumnes River Preserve totaling between 300 and 800 acres of fisheries, riparian, and wetland habitats along the lower Cosumnes River floodplain. The project would consist of:

1. Land acquisition;
2. Start-up stewardship;
3. Floodplain restoration plans including engineering and hydrological studies for levee setback and modifications;
4. Long-term operations and management;

5. An outreach program designed to demonstrate the techniques used to restore the Cosumnes floodplain and the results achieved; and
6. Monitoring.

TNC requested \$3,417,000 from CALFED. Both the Technical Review Panel and the Integration Panel are recommending \$750,000 in funding, with the suggestion that the acquisition be reduced to 300 acres and that the proponent seek a cost share from other funding sources.

Biological Assessment of Green Sturgeon in the Sacramento-San Joaquin Watershed (F1007)

No site map available

A coordinated team of UC Davis and DFG fish biologists and sturgeon authorities will address key areas of scientific uncertainty about green sturgeon to minimize harm to populations in the lower Sacramento-San Joaquin watershed. During the first two years of this investigation, the team will determine baseline information regarding the green sturgeons' biological requirements in the Sacramento-San Joaquin watershed and the feasibility of green sturgeon culture for future mitigational considerations. The five objectives of the project are:

1. Determine juveniles' food and oxygen requirements at different temperatures (temperature tolerance limits, behavioral tendencies, swimming performance);
2. Determine the requirements for gonadal development, spawning, and successful rearing of larvae and fry;
3. Determine potential environmental stressors' effects on reproductive functioning and well-being;
4. Determine the genetic stock structure of naturally spawning green sturgeon; and
5. Determine spawning site suitability in the Feather River and provide adults, sub-adults, larvae, and eggs from the Sacramento system to UC Davis scientists conducting the studies.

The applicants requested \$397,742 for the first two years of studies. Both the Technical Review Panel and Integration Panel are recommending that \$241,000 be allocated for the temperature tolerance, behavior, and reproduction studies.

Watershed Restoration Strategy for the Yolo Bypass (G1033)

Site map on pg. 16

The Yolo Basin Foundation, an established organization of local stakeholders with interest in the Bypass, proposes to develop a local implementation strategy for CALFED's ERPP. The Foundation would enlist the support of other local Bypass stakeholders in forming a Yolo Bypass working group and perform the role of a "watershed conservancy" to develop a strategy for environmental restoration and rehabilitation in the Bypass. The first phase of the project involves preparing a Draft Watershed Restoration Implementation Strategy, with the following tasks:

1. Identify, contact, and facilitate interaction among stakeholders;
2. Develop an atlas of existing resource conditions in the Bypass;
3. Develop a preliminary GIS database of Bypass resources;
4. Hold meetings with various interest groups and agencies;
5. Conduct workshops and field trips;

6. Prepare a preliminary strategy document that outlines how restoration activities will be accomplished in the Bypass;
7. Collect and compile baseline information on Bypass resources, ecological processes, and functions;
8. Present information in a newsletter and web page;
9. Identify pilot projects; and
10. Compile a final report.

The Yolo Bypass Foundation requested \$292,013 from CALFED for this first phase. The Technical Review Panel is recommending funding for tasks 2-5 only, and limiting overhead to \$169,000. The Integration Panel recommends funding everything except for task 1, for \$244,188.

Lower Putah Creek Watershed Stewardship Program (G1052)

Site map on pg. 17

Solano County and cooperating stakeholders propose to develop a community-based watershed stewardship program for lower Putah Creek. This program will: develop and implement a watershed strategy that will restore ecosystem processes; reduce environmental stressors; and integrate aquatic and riparian habitat enhancement, vegetation management, water quality protection and improvement, agricultural economic viability and water use, and public education. The first phase of this project includes the following tasks:

1. Organize the stewardship group;
2. Collect, analyze, and present resource information needed to develop the watershed strategy;
3. Conduct meetings and workshops;
4. Solicit input from resource agencies; and
5. Prepare the watershed strategy.

Solano County's Department of Environmental Management requested \$299,875 in CALFED funding for this first phase. The Technical Review Panel and Integration Panel are recommending that \$100,500 be allocated for the first two tasks, and that the overhead be reduced.

Traveling Film Festival/Heron Booth/Video Archive (H1002)

No site map available

Independent Documentary Group (IDG), in cooperation with the San Francisco Public Library, San Francisco Recreation and Park Department, and other nonprofits and agencies, proposes to increase public awareness, knowledge, and appreciation of ecosystem restoration activities and foster active participation in conservation programs by undertaking the following tasks:

1. Package and distribute a six-film Traveling Festival utilizing IDG's films about Bay and Delta habitats, wildlife, and restoration, premiering March 1999 at the Civic Center and traveling throughout the Bay Area;
2. Create and staff a multi-lingual information booth at Heron Island in Golden Gate Park during the great blue heron nesting season, providing children with a glimpse of birds and encouraging them in follow-up restoration activities; and

3. Create and operate, for the use of interested nonprofits and government agencies, a Bay/Delta Video Archive, allowing groups to purchase wildlife, habitat, aerial, development, and related footage at cost for public service announcements, short videos, and other needs.

IDG requested a total of \$89,500: \$54,000 for the Traveling Festival, \$8,500 for the Heron Booth, and \$27,000 for the Video Archive. The Technical Review Panel and Integration Panels are recommending \$54,000 be awarded for the Traveling Festival only; this first task is the only task within CALFED's scope.

Discover the Flyway (H1008)

Site map on pg. 18

Discover the Flyway is an educational program which takes an ecosystem approach to educate teachers and students in the Sacramento region about wetland ecosystems and stewardship in the Yolo Basin, with the objective of developing long-term interest in wetland protection and restoration. For the 1998/99 program year, the Yolo Basin Foundation is looking to expand the program to include curriculum and activities for middle school students and curriculum and activities for expansion sites; for the 1999/2000 year, the Foundation hopes to expand the program to include high school students and expand trips and training sessions for the general public.

The Yolo Basin Foundation requested a total of \$59,778 from CALFED (\$27,172 in the first year and \$32,606 in the second year); the Foundation would be providing \$48,909 (\$27,172 in the first year and \$21,737 in the second year). The Technical Review Panel and Integration Panel are recommending that CALFED provide \$27,172 in the first year and \$21,800 in the second year, or a total of \$49,000.

Bay-Delta Environmental Restoration Education Program (H1015)

Site map on pg. 19

This project would provide outreach to citizens, journalists, decision makers, students, and teachers, to increase understanding of the ecology of the Bay-Delta watershed and relate this to long-term CALFED programs; the focus would be to encourage Bay-Delta and tributary watershed communities to become knowledgeable and involved in the environmental restoration process. The Water Education Foundation proposes the following tasks as part of this program:

1. Produce/distribute a 20-page booklet for decision makers: "Layperson's Guide to Environmental Restoration";
2. Produce/distribute a summary document for communities: "Basics of Environmental Restoration -- A Workbook for Communities";
3. Produce/distribute two information slide cards on endangered and introduced species for the public: "The Salmon Story" and "Unwelcome Visitor Species";
4. Issues tour for the Delta and Bay region for journalists;
5. Teacher workshops for K-14 educators on wetlands, watershed education, and resource management problem solving; and
6. Update the public television documentary, "Setting the Course," to include new CALFED information, and distribute to local cable channels.

The Water Education Foundation requested \$102,900 from CALFED for the above tasks. The Technical Review Panel and Integration Panel are recommending funding of \$40,000 for the slide cards, journalism tour, and teacher workshops at secondary and community college levels.

The Virtual Science Center and Hands-on Learning Programs (H1016)

Site maps on pg. 20-22

The Delta Science Center at Big Break is looking to create a virtual science center via the Internet that informs people on, and monitors, Big Break as a microcosm of the larger Delta. The Delta Science Center proposes to build a web site based upon over two years of privately funded and ongoing Delta Science Center programs; these programs are student-based and professional collections of baseline data focused on Big Break Lagoon and its Marsh Creek watershed in the western Delta. A team of web designers, graphic artists and computer programmers would collect, interpret, and input all student and professional baseline work into an Internet science program website.

The Delta Science Center requested \$54,000 for this two-year project. The Technical Review Panel and Integration Panel are recommending \$42,000.

Water Challenge 2010 (H1018)

No site map available

San Francisco Bay Model Visitor Center, in collaboration with the US Army Corps of Engineers (Corps), seeks funding for Water Challenge 2010, a traveling environmental education exhibit. The exhibit would motivate visitors to learn more about complex issues of the Bay-Delta by providing them with an experience of personally managing Delta water for ecosystem restoration and other beneficial uses. Visitors would apportion water flowing from a huge tank (representing the total of available Delta water) in to a series of smaller tanks (representing Delta needs of fish and wildlife, cities and industry, and agricultural users); as they make their allocation decisions, they would receive feedback of the consequences of their actions via video monitors built into the exhibit. The exhibit would be developed and implemented in the following phases:

1. Exhibit design and engineering;
2. Audio-visual software development;
3. Exhibit fabrication;
4. Installation;
5. Exhibit evaluation and monitoring;
6. Software and engineering refinements;
7. Fabrication of duplicate exhibits; and
8. Original exhibit on-tour.

San Francisco Bay Model Visitor Center has asked CALFED to fund the first four phases (design, engineering, software, fabrication, and first installation of the exhibit prototype) at a cost of \$115,000; the Corps has committed to funding the evaluation and monitoring and the engineering and software refinement activities. The Technical Review Panel and Integration Panel are recommending that the first two phases be funded at a cost of \$64,500.

Developing a Methodology to Accurately Simulate the Entrainment of Fish (I 1000)

Site map on pg. 23

DFG proposes to purchase or lease a barge, mount a pipe, pump, and flume to hold a sampling net on board the barge, then conduct sampling of one of their DWR's agricultural diversion siphons on Sherman Island. The data will be analyzed with paired sampling statistics, to demonstrate the degree of precision of this methodology to adequately predict and characterize the entrainment of siphons in any area of the Delta chosen to be sampled in the future. This information would be used to characterize which diversions, areas, or channel types in the Delta should be prioritized for screening, and which others may not be cost-effective to screen at all.

DFG requested \$200,000 from CALFED; the total proposal cost is \$263,414. DWR is expected to provide the remaining \$63,414. The Technical Review Panel and Integration Panel are recommending that the entire \$200,000 be awarded.

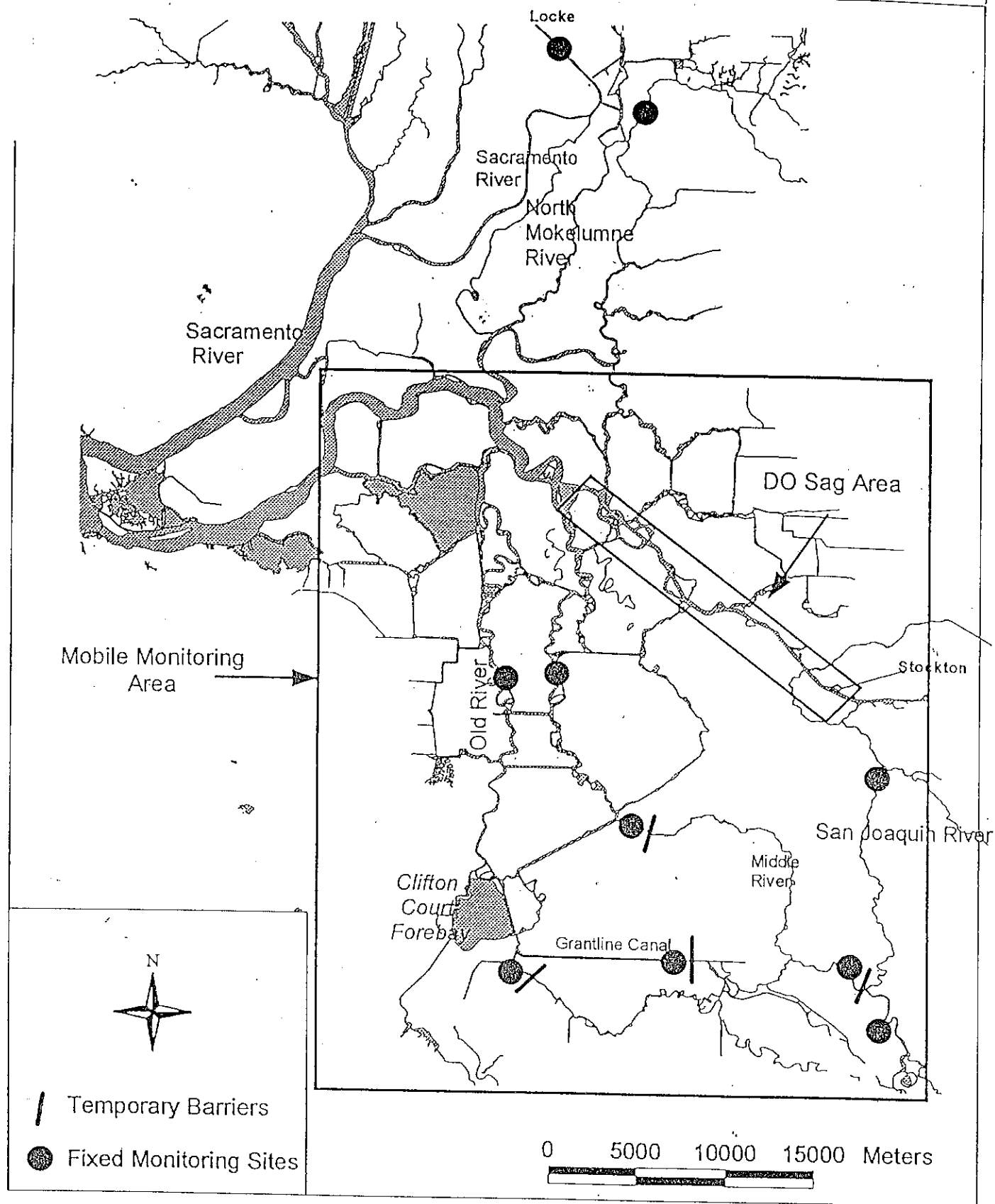


Figure 1. Adult Salmon Telemetry Monitoring Area

Cosumnes River Salmonid Barrier Program (B1009)

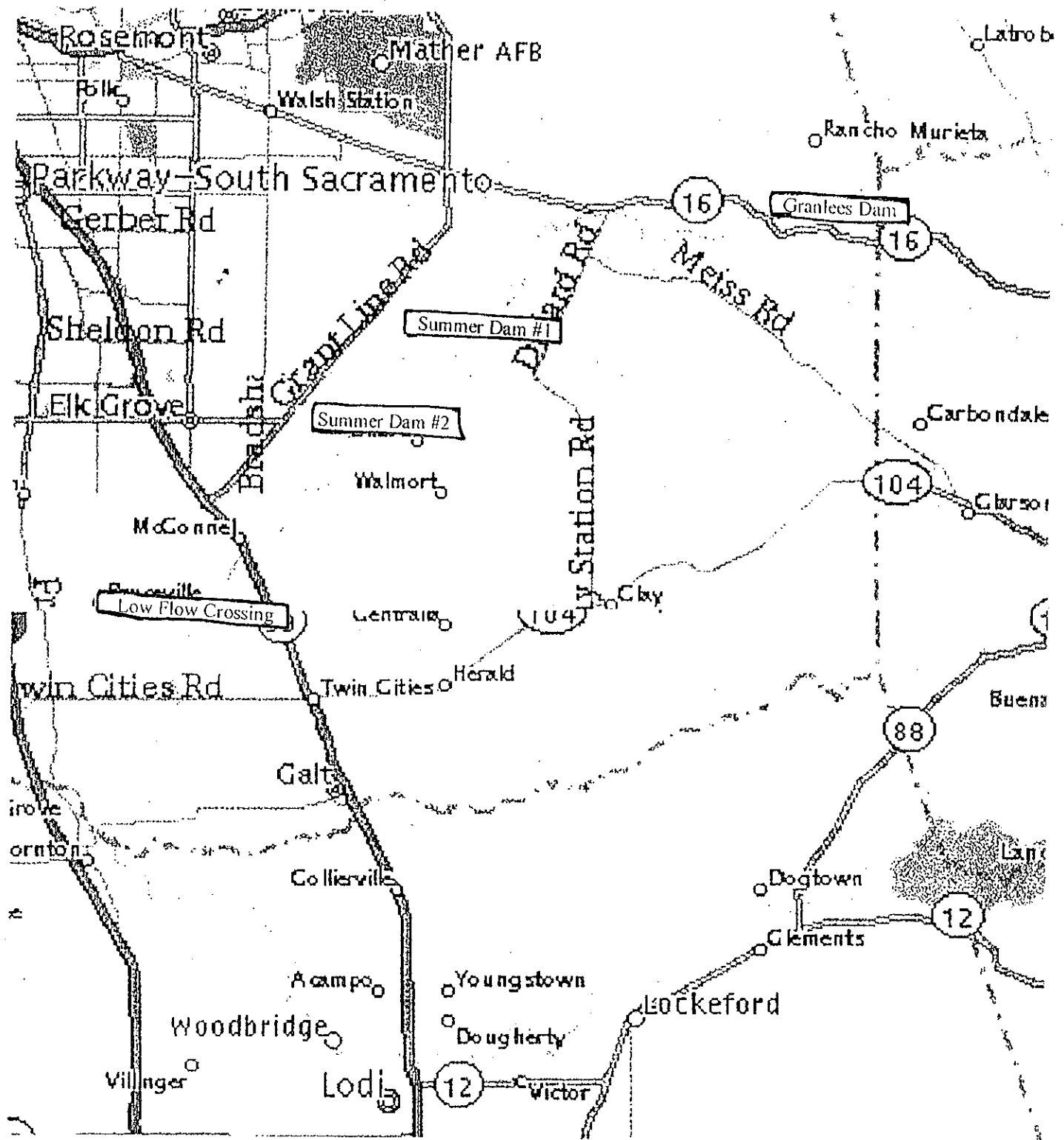
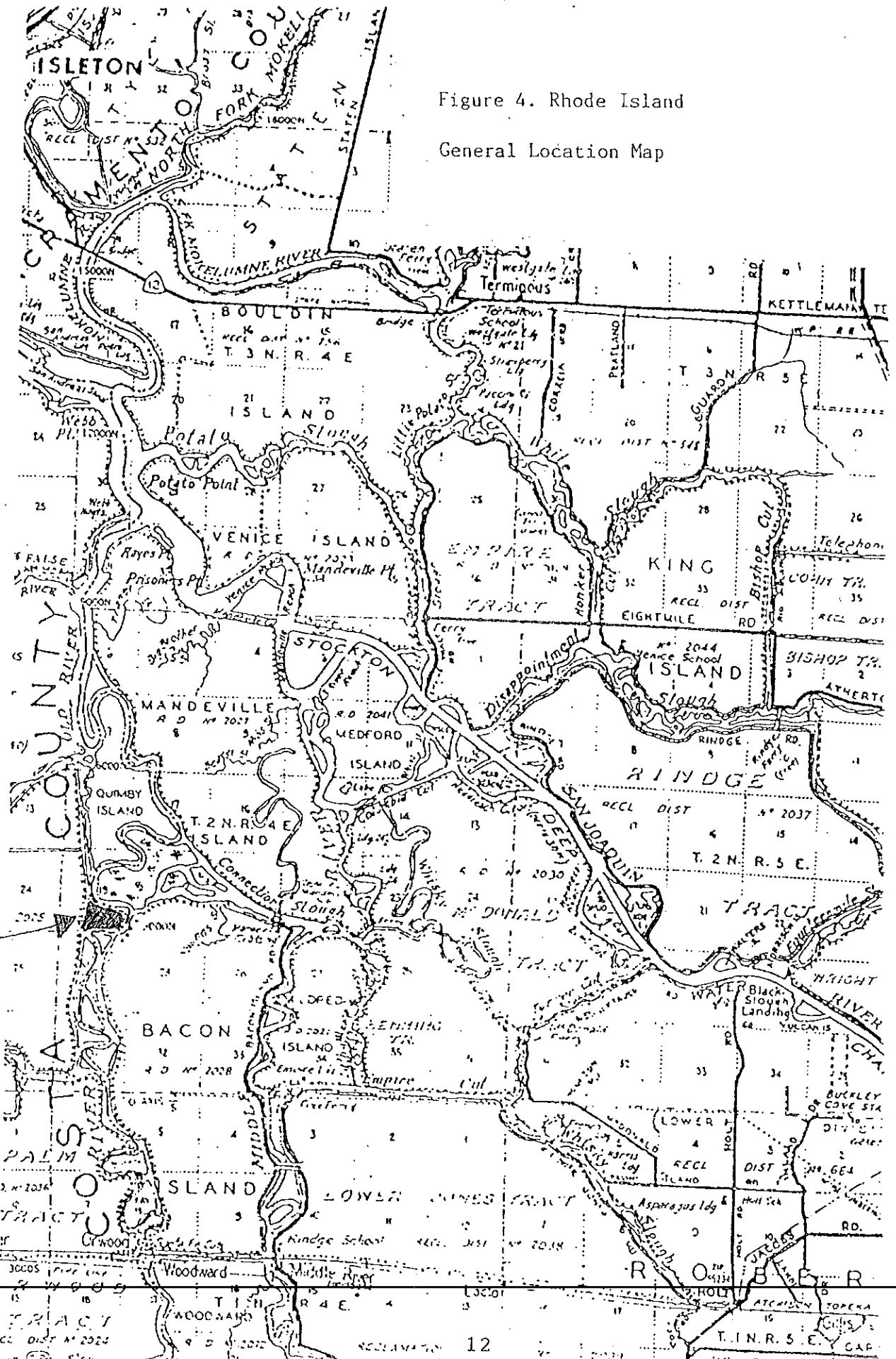


Figure 1. Approximate locations of known salmonid migration barriers on the Cosumnes River, Sacramento county, CA.

Figure 4. Rhode Island

General Location Map



Rhode
Island

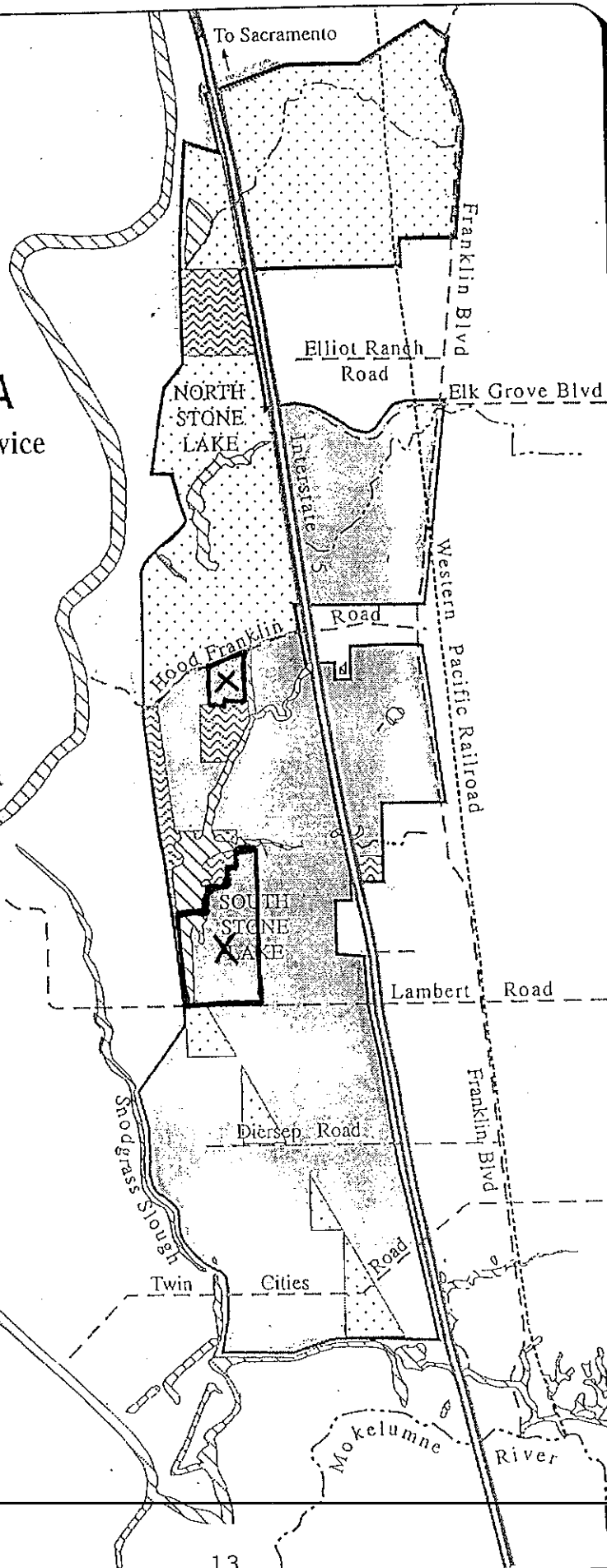
STONE LAKES NATIONAL WILDLIFE REFUGE PROJECT AREA

U.S. Fish and Wildlife Service

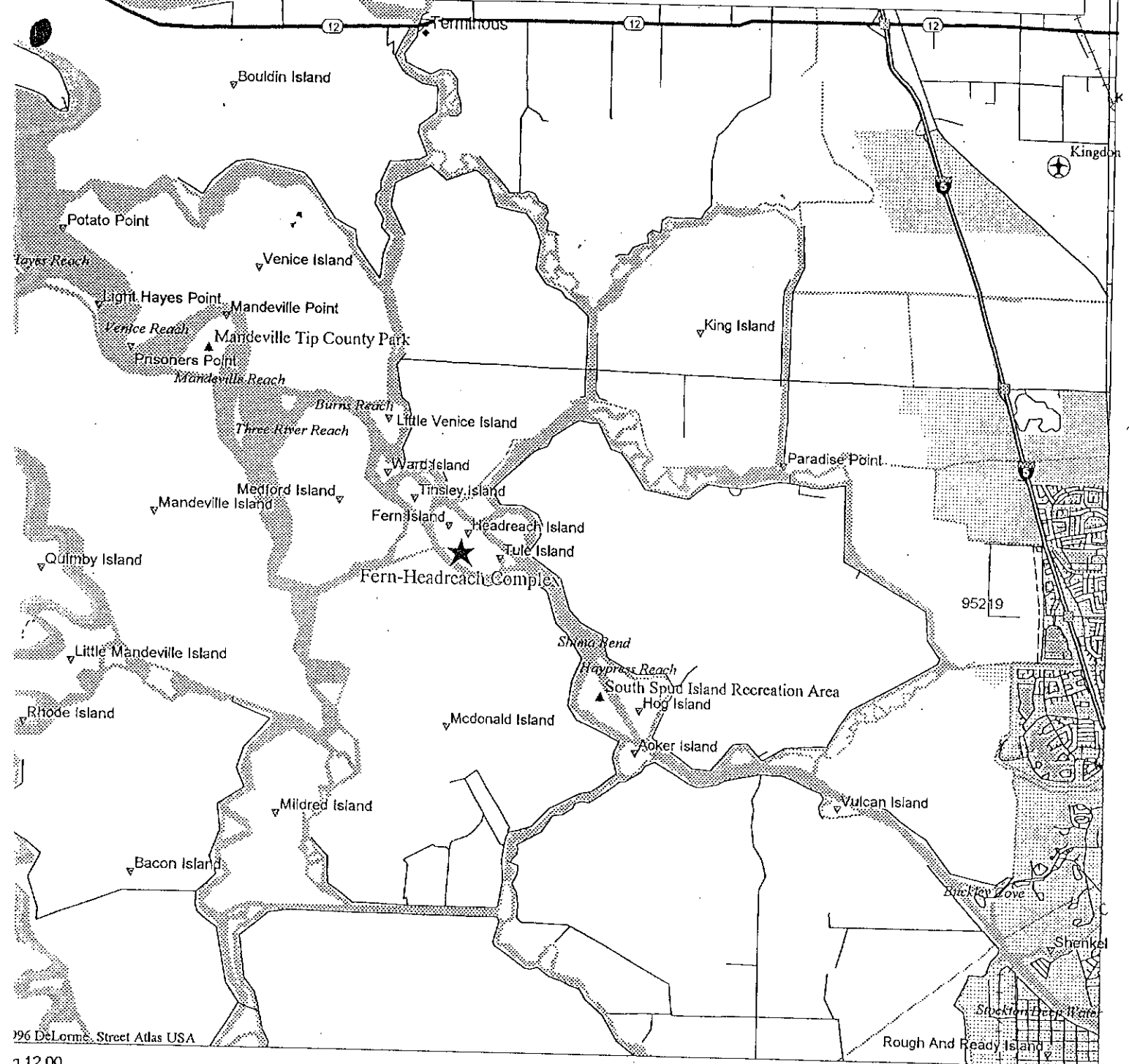


□ Proposed acquisitions

LEGEND	
	Refuge Project Boundary
	Refuge Lands
	Other Public Lands
	Railroad
	Freeway
	Roads
	Streams
	Open Water



Fern-Headreach Island Complex



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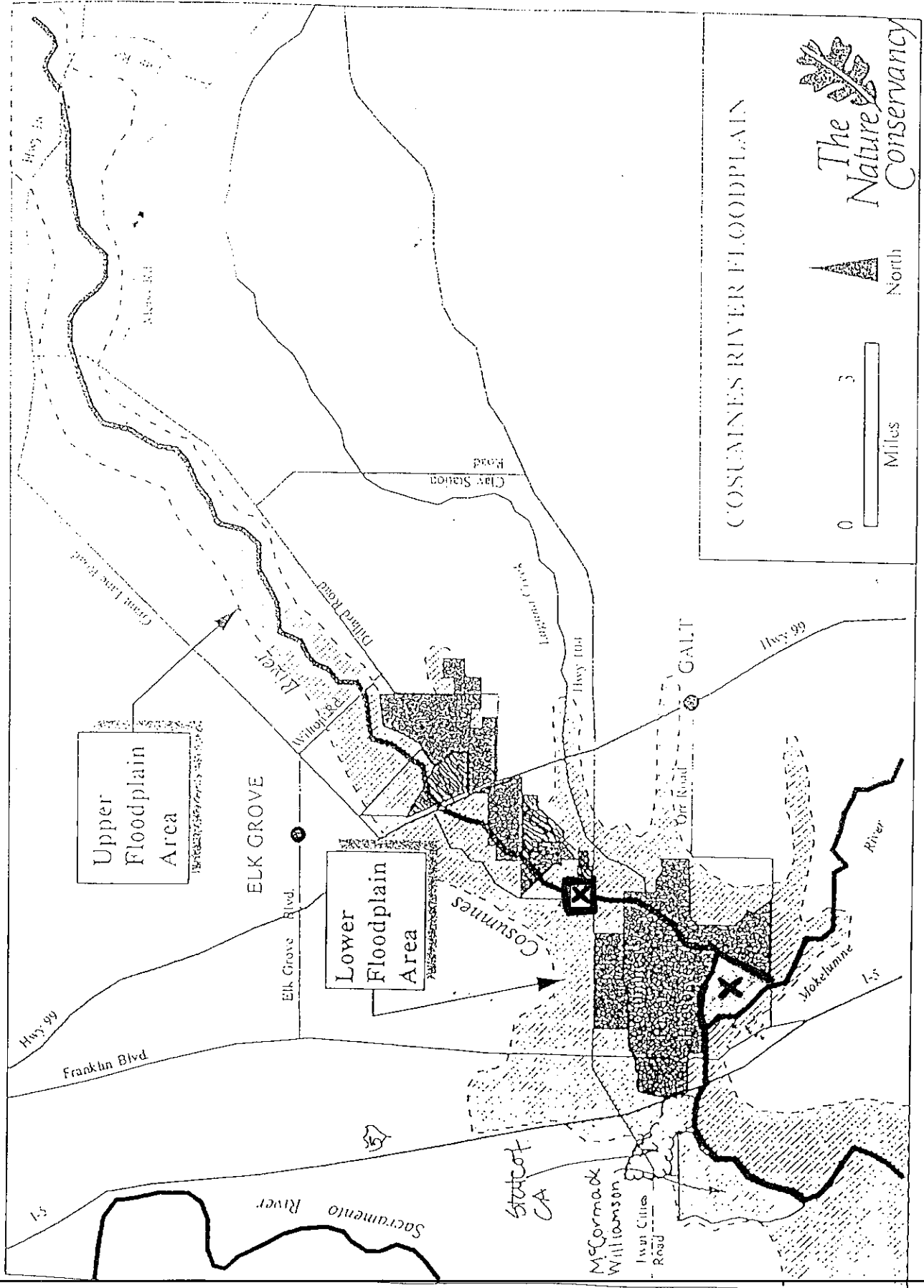
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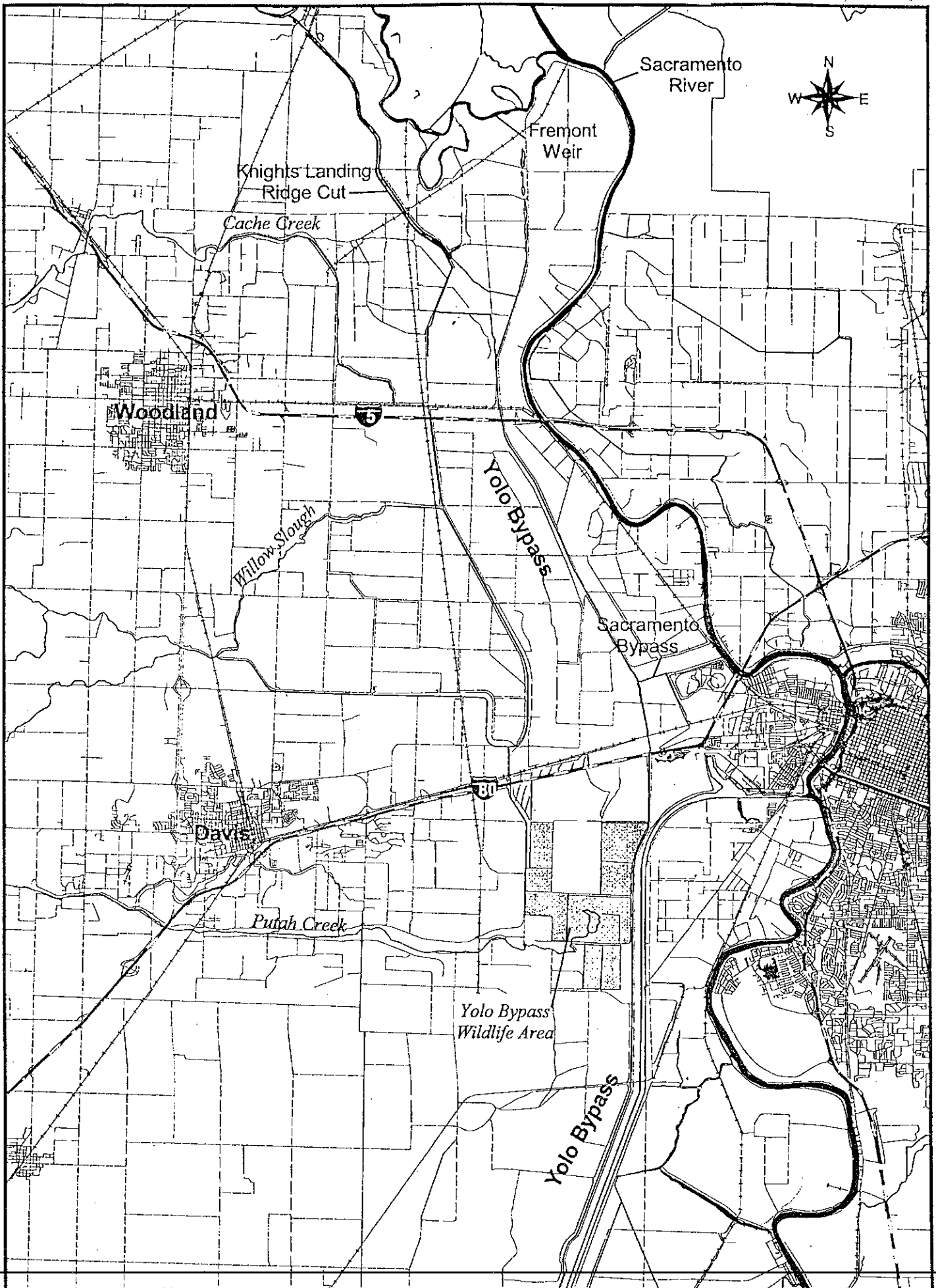
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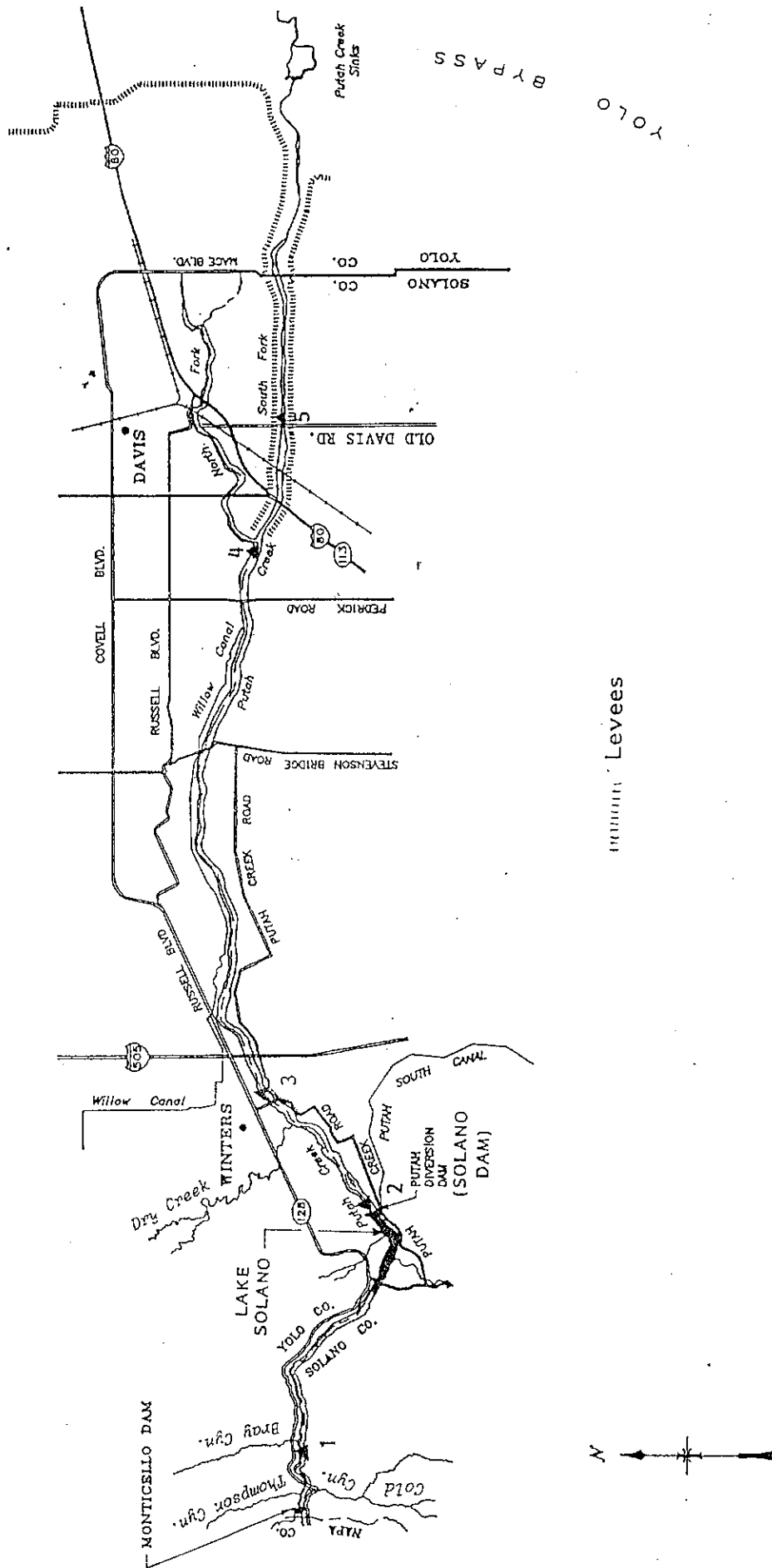
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|------------------------------|---------------------|
| — Secondary SR/Road/Hwy Ramp | ◆ Locale |
| — Primary State Route | ✈ Public Airport |
| — Interstate/Limited Access | ⬮ Exit |
| - - - Utility/Pipe | ▨ Population Center |
| + + + Railroad | ▨ County Boundary |
| ◆ Small Town | Land |
| ▽ Geographic Feature | Water |
| ▲ Park/Reservation | ~~~~~ River/Canal |

Cosumnes River Acquisition (C1032)



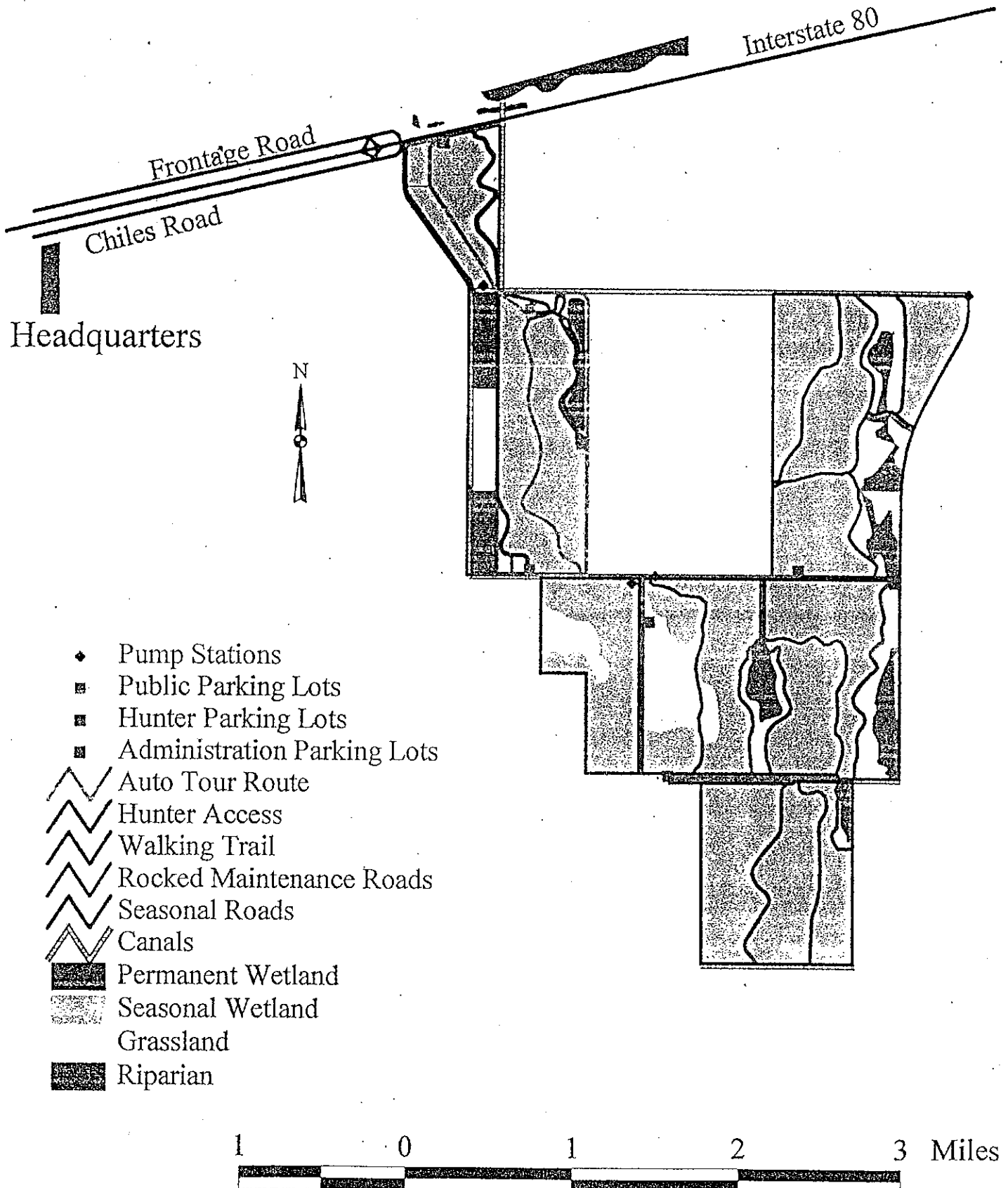




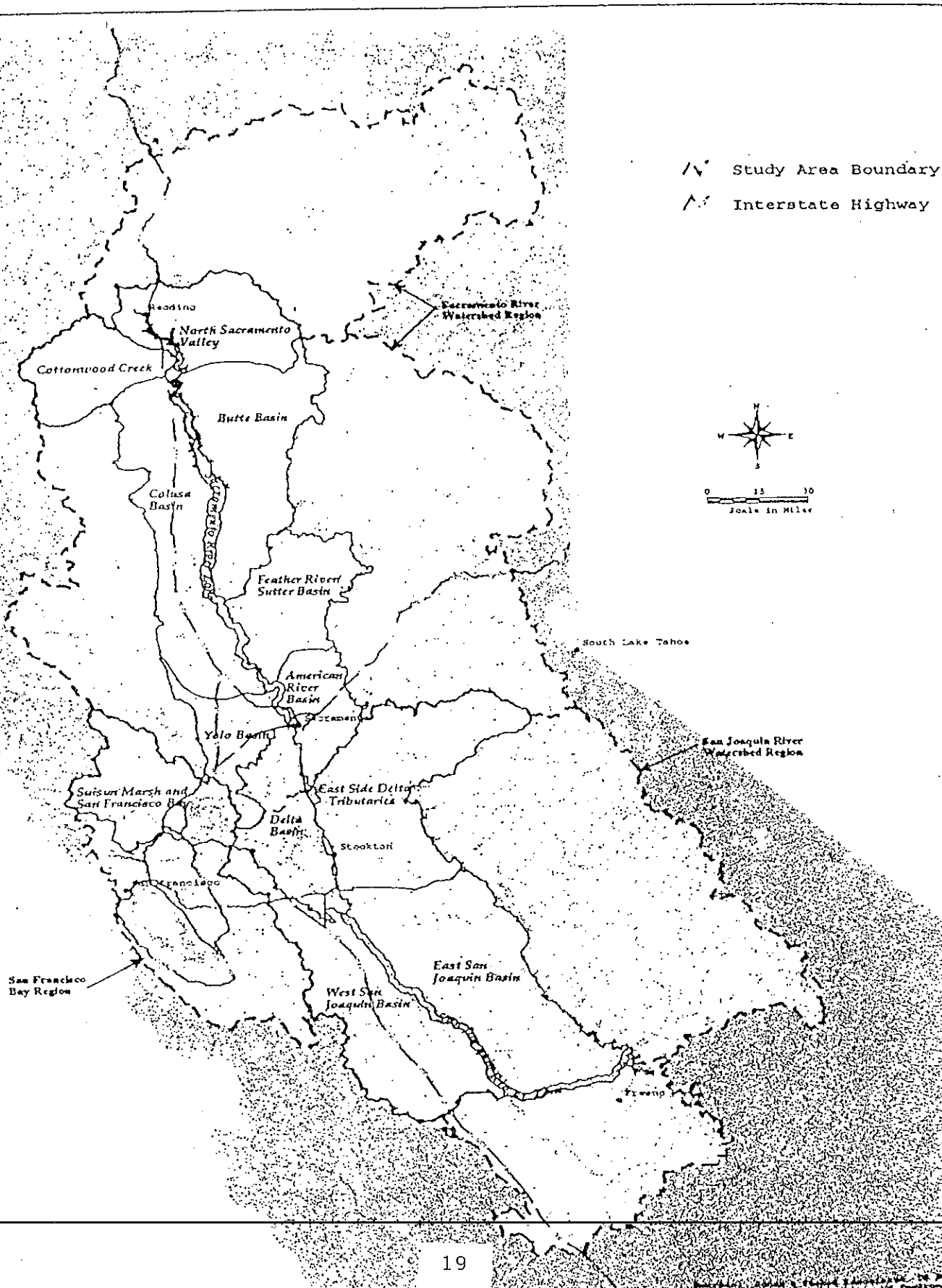
Lower Putah Creek Watershed Stewardship Program

Figure 1
Lower Putah Creek

YOLO BYPASS WILDLIFE AREA



GEOGRAPHIC SCOPE OF RFP PROGRAMS AND PROJECTS



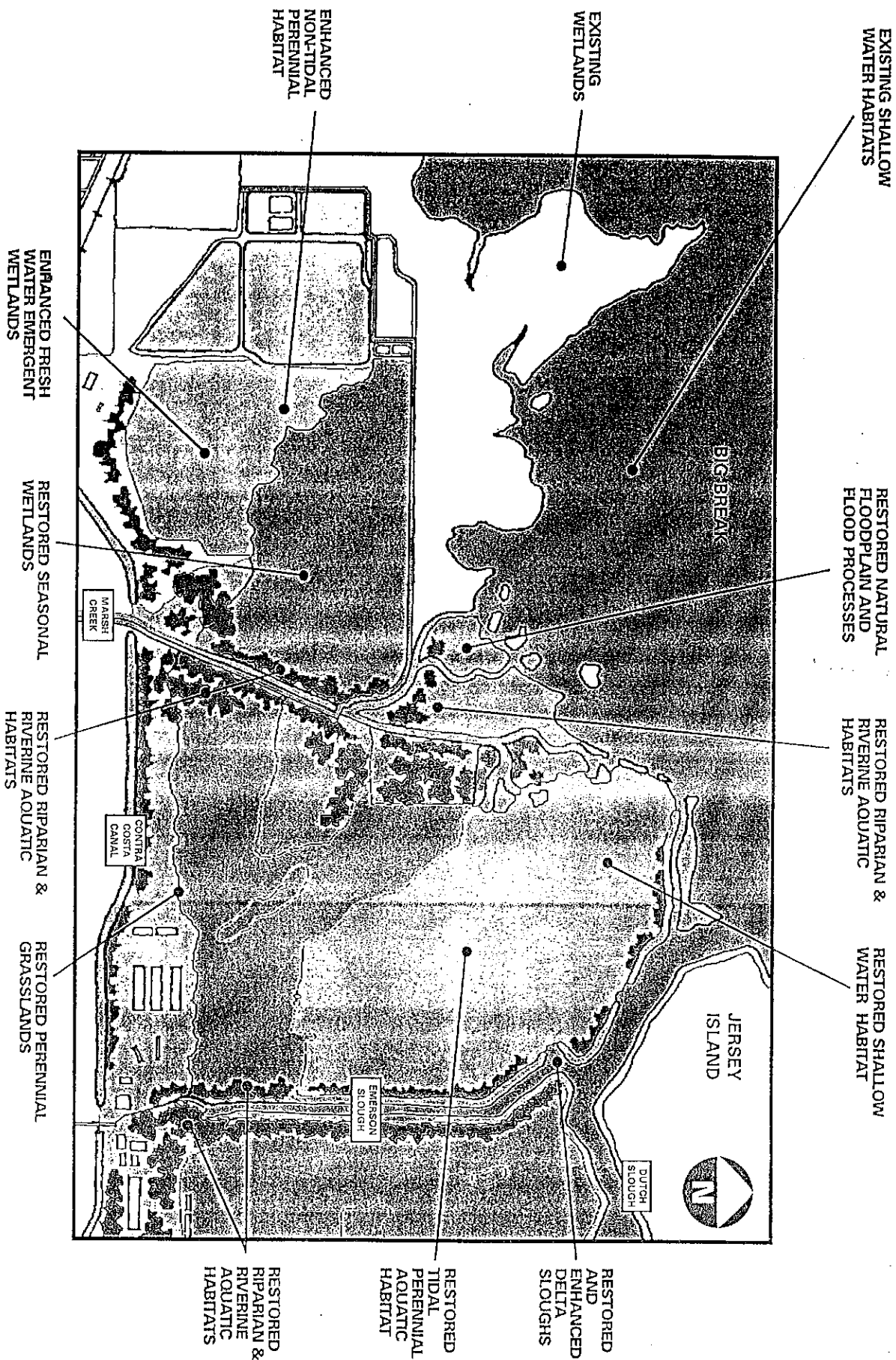


FIG 4a: POTENTIAL BIG BREAK TIDAL MARSH RESTORATION COMPONENTS

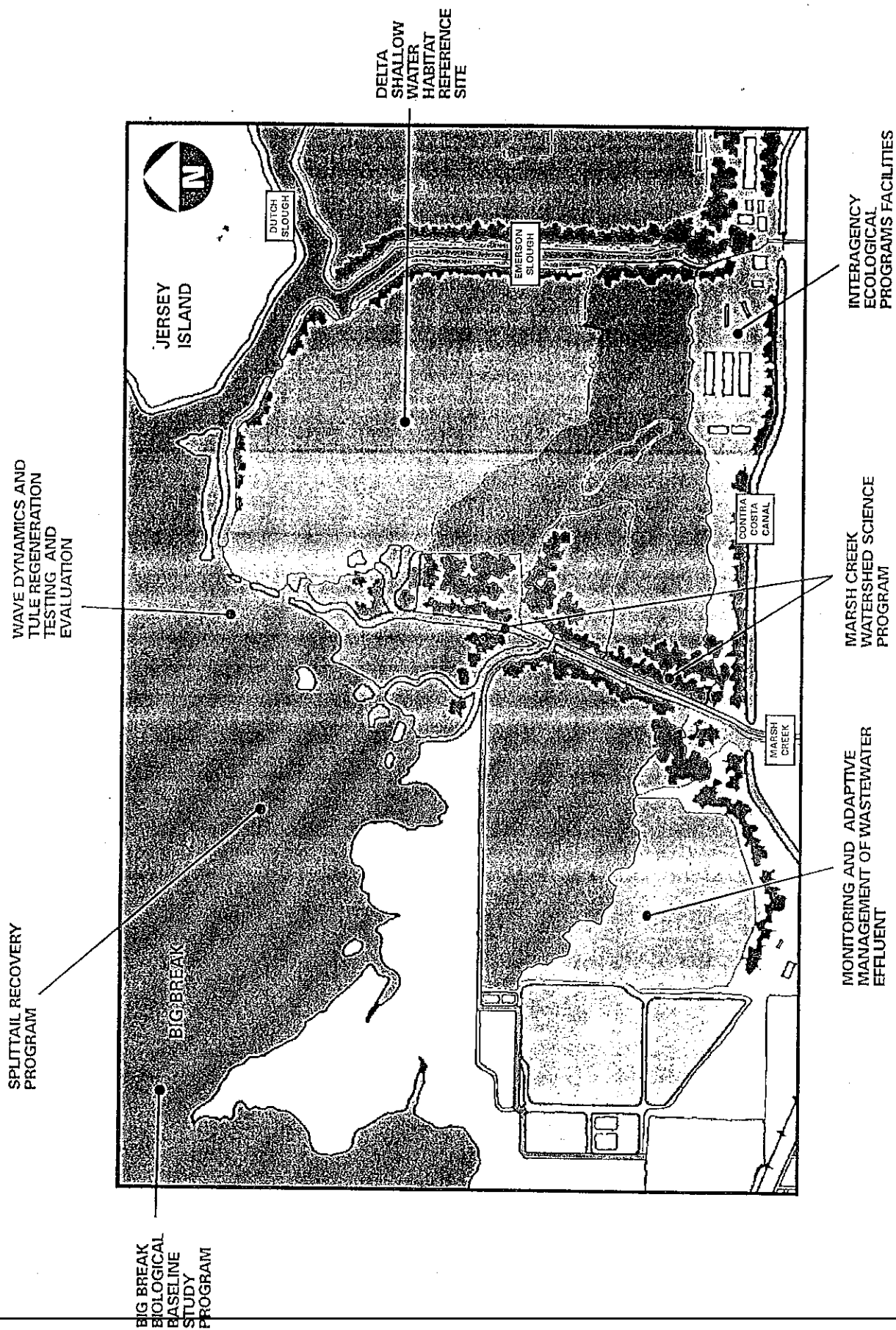


FIG 4b: POTENTIAL BIG BREAK TIDAL MARSH RESEARCH COMPONENTS

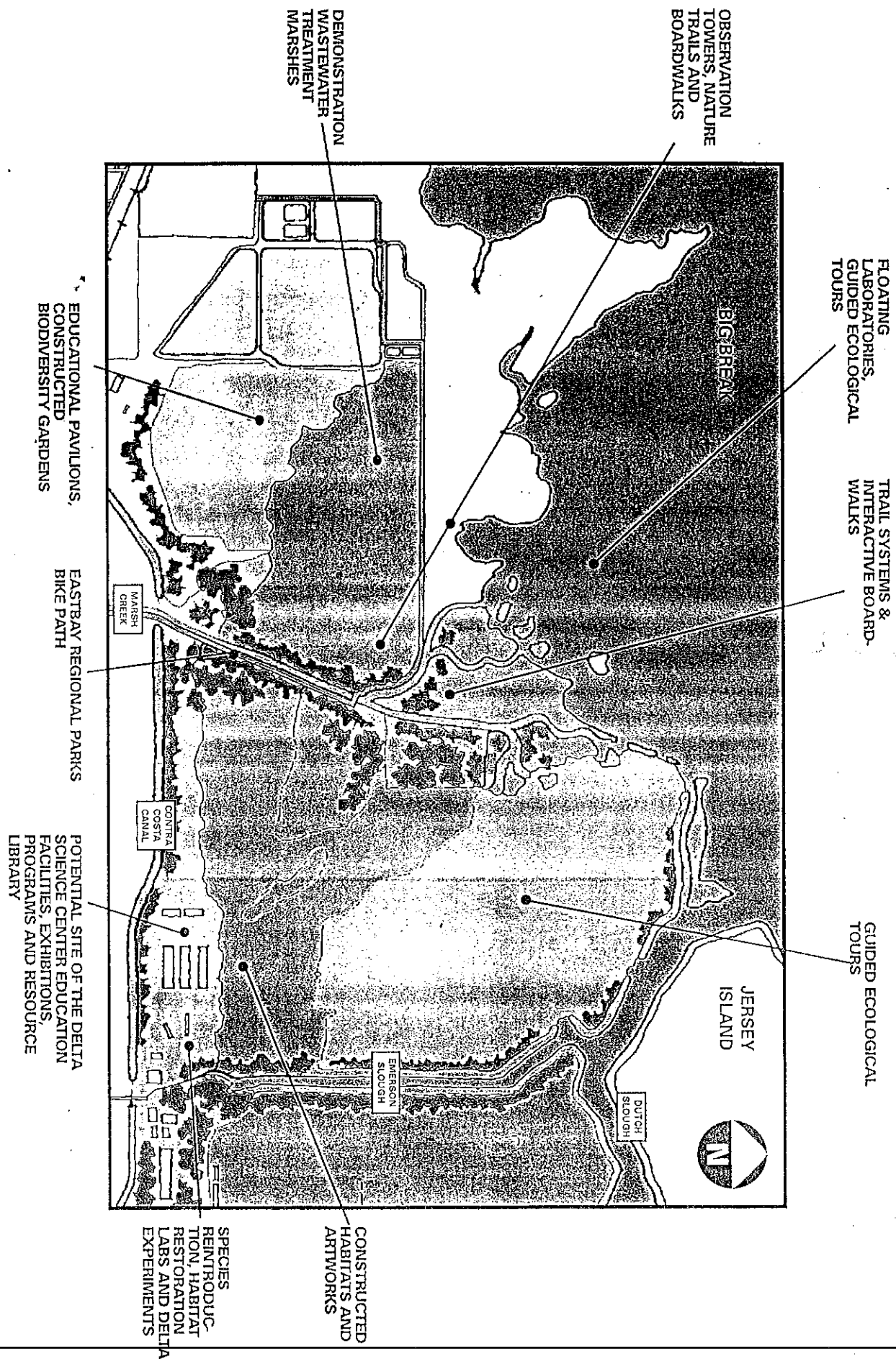


FIG 4c: POTENTIAL BIG BREAK EDUCATIONAL COMPONENTS

